DOES NOT CIRCULATE

THE LANCET

No. 7087 LONDON SATURDAY 27 JUNE 1959 VOL. I FOR 1959

Passengers in Aircraft

THE human body, if properly restrained, can stand very sharp deceleration for a brief period, as in an aircraft which crashes on landing or taking off. Aircraft crews usually have to face the way they are going, and they are provided with harness to keep them in their seats. This harness is elaborate, consisting of a wide abdominal belt connected to a shoulder harness, and it is stressed to take forces up to and beyond the strength of the seat. The deceleration loads are spread over a considerable area of the body, though not as large as the area in contact with a backward-facing seat. The value of such a harness has been proved repeatedly.

One engine of a transport aircraft failed in flight, and, while the pilot was trying to make an emergency landing in very bad visibility, the aircraft crashed into the side of a small wooded hill. The speed on impact was estimated at 90-100 knots, and the deceleration at 10G.

The pilot was tightly strapped to his seat by a "Q-type" harness, and, although the seat buckled, his injuries were trivial, amounting to no more than a cut over one eye and some bruises. Unfortunately in the case of the second pilot, although the lower strap was tightly applied, the shoulder harness was not done up. Consequently the upper part of his body moved forward and to the left on impact. He died shortly after the crash. Necropsy showed severe internal injuries: ruptured left kidney (which was in fact bisected); torn renal artery; torn root of mesentery; haemopericardium and haemothorax; dislocation of the 12th dorsal vertebra with complete transection of the spinal cord; and a double fracture of the right tibia. The pathologist considered that the only evidence of direct violence was the damage to the right leg, and that, had the Q-type harness been fastened, the gross decelerative injuries would have been averted.

In the rear cabin of this aircraft were nineteen passengers, all of whom were in rearward-facing seats. Of these only five received injuries, all trivial and for the most part due to falling luggage.

Passengers in commercial aircraft, however, usually have forward-facing seats and are provided only with a narrow abdominal belt, which does not restrain the trunk at all. If there is a sudden stop the head, trunk, and lower limbs are thrown forwards and downwards, and are liable to strike the seat in front and be directly injured.[1] Passengers may thus receive injuries which are due to inadequate restraint; but at the same time the narrow belt itself can produce severe intra-abdominal or intrathoracic injuries, by reason of the great load applied over a small area. In fact, passengers are as much at risk as the unfortunate second pilot in the crash already mentioned, and TEARE's[2] findings at necropsies on the victims of a civil aircraft crash were similar to those described above. Decelerative injuries were discussed also by ARMSTRONG et al.[3] in their report on the Comet disasters. No such injuries occur when the area of restraint is sufficiently spread, as in the backward-facing seat.

Clearly no restraint can be effective if the seat or its anchorage collapses on deceleration, so the first safety requirement is a strong seat and mounting. This involves extra weight, which is disliked by aircraft operators since it reduces the pay-load of the aircraft. The Joint Parliamentary Secretary to the Ministry of Transport and Civil Aviation made this point in an adjournment debate,[4] in which he admitted the supiriority of the backward-facing seat over the usual arrangement. He suggested, however, that the superiority was marginal, and said that, in crashes where the aircraft turned round through 180 degrees, the backward-facing became the forward-facing seat, with all its disadvantages. This hardly seems a valid argument against a measure which caters for the usual crash situation, in which the forces are not so reversed.

In this controversy certain facts emerge. Firstly, the Royal Air Force has been sufficiently persuaded of the advantages of backward-facing seats to fit them in all Transport Command and charter aircraft since the war, and no change seems to be contemplated—and, though R.A.F. Transport Command may be less interested in economics than are the airlines, it is probably just as interested in payload. Secondly, in surveys conducted both by the R.A.F. and in America, passengers have expressed no preference for facing forward, probably because they can see so little from the cabin anyway. Thirdly, the International Civil Aviation Organisation has twice rejected British proposals to make backward-facing seats mandatory. It is difficult to escape the conclusion that, where there is no strong public opinion, the world's airlines are influenced more by economic than by safety factors.

Myotonia

MYOTONIA is the name given to delayed relaxation of voluntary muscle following contraction; the cause of the contraction may be voluntary effort, direct percussion, or electrical stimulation. Myotonia is found in two disorders—myotonia congenita and dystrophia myotonica—although there has been a good deal of controversy as to whether these should be regarded as separate diases[5]. In myotonia congenita the delayed relaxation after willed movements is the major disability, and if the myotonia can be relieved by treatment the patient benefits greatly. In dystrophia myotonica the myotonia is

1. Fryer, D. I. Aeronautics, 1959, **40**, 31.
2. Teare, D. Brit. med. J. 1951, ii, 707.
3. Armstrong, J. A., Fryer, D. I., Stewart, W. K., Whittigham, H. E. Lancet, 1955, i, 1135.
4. Hansard, May 12, 1959, col. 1015.
5. Maas, O. Paterson, A. S. Brain, 1939, **62**, 198.

only one of several manifestations, the others being a form of muscular dystrophy, cataract, and endocrine disturbances; but in some patients at certain stages myotonia is the most prominent symptom. The physiology of myotonia has been investigated both in patients and in goats with congenital myotonia,[6] and it has been shown that the myotonia after-discharge is associated with fast repetitive action-potentials in the affected muscle-fibres and that the disorder apparently arises in the muscle-fibres rather than in the peripheral nerves or neuromuscular junctions. Myotonia is usually accentuated by cold, and in most patients tends to inprove with repeated voluntary movements.

Several substances have been used in the symptomatic treatment of myotonia, the first uself one being quinine which was introduced in 1936.[7] Although in some patients this reduces myotonia, it is somewhat uncertain in its effect and in adequate doses troublesome side-effects such as tinnitus and giddiness are common. In 1950 [8] and 1951 [9] cortisone and corticotrophin were found to relieve myotonia, and in 1957 [10] prednisone was shown to have a similar effect. In 1955 GESCHWIND and SIMPSON [11] first used procainamide for the relief of myotonia; they tested this substance on account of its quinine-like action on the repetitive firing of cardiac muscle, believing on theoretical grounds that it might have a comparable effect on voluntary muscle. They found that, injected intravenously, it reduced myotonia; they then gave it by mouth to 9 patients and reported favourable results, an adequate dosage usually being 4 g. a day in divided doses. MACROBBIE and FRIEDLANDER [12] confirmed these results in 7 patients, in whom they observed a favourable effect on voluntary-contraction myotonia but no effect on percussion myotonia. LIVERSEDGE and NEWMAN [13] however, using smaller doses of up to 2 g. of procainamide a day, could detect no reduction of myotonia, although in 8 out of 9 patients treated they obtained a significant reduction of myotonia with cortisone or corticotrophin. LEYBURN and WALTON [14] have now reported a controlled clinical trial of the three substances—quinine, procainamide, and prednisone. There were 20 patients—4 with myotonia congenita and 16 with dystrophia myotonica. Four types of tablet were used, each for a three-week period, these periods on the different drugs following one another without a break. For one period quinine was given in a dosage of gr. 5 twice a day for the first week and three times a day for the second and third weeks; for another period procainamide 0.5 g. four times a day for the first week, 0.75 g. four times a day for the second week, and 1 g. four times a day for the third week; for a third period prednisone 10 mg. twice a day for the whole three weeks; and for the remaining period dummy tablets of lactose—one tablet twice a day for the first week, and two tablets twice a day for the second and third weeks. The rotation of the drugs varied for different patients. The patients were seen each week and, besides a general assessment of ability to perform everyday tasks and the patient's own opinion of the effect of the treatment, two objective estimates of the myotonia were made. The myotonic after-discharge was estimated by means of electromyography with electroencephalograph amplifiers; surface electrodes were applied to the flexor surface of the right forearm, and the recorded voluntary movement consisted in squeezing for three seconds a sphygmomanometer cuff inflated to constant volume and pressure. LEYBURN and WALTON found that no less reliable results were given by a clinical method, by which the patient gripped two of the examiner's fingers as tightly as possible for three seconds and then straightened the fingers as quickly as he could, the time taken for the fingers and thumb to be extended being measured with a stop-watch.

In no case did the dummy tablets reduce myotonia significantly: of the three drugs quinine was the least effective, and there was relatively little to choose between prednisone and procainamide. If improvement of 50% or more is considered to indicate effective treatment, this occurred in 6 out of 20 patients with quinine, in 15 out of 20 with procainamide, and 15 out of 19 with prednisone. In several patients myotonia could not be detected when procainamide or prednisone was being administered. As regards side-effects, quinine caused tinnitus in 9 patients and some deafness in 6, procainamide caused severe nausea and anorexia in 1 patient and mild anorexia, headache, or aching in the muscles in 2 or 3 others, while prednisone in the dosage used over the three-week period was remarkably free from side-effects. LEYBURN and WALTON suggest that longcontinued treatment with prednisone is unwise if there is another drug of equal efficacy in reducing myotonia, and they consider that their clinical trial shows that procainamide is the drug of choice for long-term treatment. This drug, which has been used for some years in cardiology, appears to be relatively free of serious side-effects, although 1 case of agranulocytosis has been reported.[15]

Another approach to the treatment of myotonia—administration of a potassium-binding ion-exchange resin—was suggested in 1953,[16] and its use in 2 patients with myotonia congenita and 1 with dystrophia myotonica has been reported by TOMPKINS.[17] The reason for using such a resin was that the beneficial effects of cortisone and prednisone were thought to be due to modification of the susceptibi-

6. Brown, J. L., Harvey, A. M. ibid. p. 341.
7. Wolf, A. Arch. Neurol. Psychiat. 1936, **36**, 382.
8. Shy, G. M., Brindler, S., Rabinovitch, R., McEachern, D. J. Amer. med. Ass. 1950, **144**, 1353.
9. Shy, G. M. ,McEachern, D. Brain, 1951, **74**, 354.
10. Scaizella, R. G. Psichiat. Neuropat. 1957, **85**, 1001.
11. Geschwind, N., Simpson, J. A. Brain, 1955, **78**, 81.
12. MacRobbie, S., Friedlander, W. J. Arch. Neurol. Psychiat. 1957, **78**, 473.
13. Liversedge, L. A., Newman, M. J. D. Brain, 1956, **79**, 395.
14. Leyburn, P., Walton, J. N. ibid. 1959, **82**, 81.
15. Inouye, M., Millar, J., Townsend J. H. J. Amer. med. Ass. 1951, **147**, 652.
16. Gruttner, R., Mertens, H. G. Klin. Wschr. 1953, **31**, 868.
17. Tompkins, V., Lascelles, R. J., McKinney, B. J. Neurol. Neurosurg. Psychiat. 1959, **22**, 50.

lity of the muscle-cell membrane to potassium ions. Myotonia was satisfactorily reduced in all 3 cases while the resin was being administered, and in 2 of the cases this improvement was accompanied by a reduction in the serum calcium and potassium levels. This approach opens up interesting possibilities for research on the mechanism of myotonia, but more work will be needed to establish whether it is applicable to long-term treatment.

Annotations

PRINTING OF THE LANCET

THE normal production of our journal has once again been prevented by a dispute in the printing industry. This week's issue has therefore been printed abroad and is inevitably a small one, looking somewhat unfamiliar. Though we hope to go on appearing each week we must ask our subscribers, contributors, and advertisers to make allowance for any delays and deficiences which prove unavoidable.

FOOD, HEALTH, AND POLITICS

IN a Sanderson-Wells lecture, delivered in London on June 9, Lord Boyd Orr ranged over the history of progress towards our present high level of nutrition. Until the 19th century, the problem was one of finding enough food to eat. Eventually improvements in production and distribution ensured that there was enough food, but under urban conditions the balance of nutrients was often disturbed. Scurvy and rickets became common, and the minimum heigh for Army recruits, which had been 5 ft. 6 in. during the Crimean war, was lowered to 5 ft. 3 in. in the Boer war and then to 5 ft. After the 1914—18 war economic and dietary surveys showed that a third of the population could not afford to buy enough food for health, and nutritionists accepted the need for political agitation. In this country Eleanor Rathbone, le Gros Clark, and Boyd Orr himself were leaders of the campaign to ensure an adequate diet for all, culminating in the achievements of the Ministry of Food during the late war, from which we emerged a healthier nation than ever before. Internationally, a movement developed to increase food production in order to enhance the prosperity and standard of living of the peoples of the world. The U.S.A. and the U.S.S.R. were among the twenty-two nations represented on a committee set up by the League of Nations, but its work was cut short in 1939.

This impetus was not lost, however, and, with the active support of President Roosevelt, the Food and Agriculture Organisation of the United Nations was formed, with Lord Boyd Orr as its first director-general. Since then the work of F.A.O. has, Lord Boyd Orr lamented, been much influenced by power politics; but in recent years there has risen again a call for development of world food production, and particularly for greater stability of prices. If, said Lord Boyd Orr, the nations would heed this call, and direct only a small proportion of the money spent on preparations for mass destruction to increasing food production, there need be no fear that the growth of population would outstrip the food-supply. But this would not be achieved by politicians: it would be the task of businessmen and scientists; and perhaps the greatest share of responsibility fell on the medical profession, which, by prevention and cure, had been the instrument of the increase in population.

Lord Boyd Orr was speaking largely of the temperate regions when he contrasted the adequate diet provided by an agrarian economy (so long as there was enough food) with the unbalanced diet consumed by the towns. He did not draw attention to the fact that in the tropics, where more than half the world's population lives, even the agrarian economy produces an unbalanced diet, short of protein in general and of animal protein in particular. There the need is not only for stable commodity prices, so that these countries can plan the purchase of supplementary foods, but for relaxation of trade restrictions together with the establishment of long-term agreements, so that the countries with surpluses of food can help the countries with deficits.

IMMUNOLOGICAL ASPECTS OF INFERTILITY

THE antigenic properties of spermatozoa were independently discovered by Landsteiner [1] and Metchnikoff [2] sixty years ago when they demonstrated the production of specific antibodies in guineapigs after parenteral injection of heterologous sperm. Almost immediately afterwards Metalnikov [3] showed that a similar response could be obtained by injecting homologous or even autologous sperm. Subsequently many attempts have been made to utilise the antigenicity of sperm as the basis for a method of contraception, or at least as a means of reducing fertility. The findings have been conflicting,[4] but positive results have been sufficient to encourage further work. The introduction of adjuvant techniques, especially water-in-oil emulsions blended with fractions of acid-fast bacilli to enhance antibody responses,[5] should lead to quicker progress.

In attempts to produce contraception by immunological methods, iso-, auto-, or hetero-immune reactions have been used. Thus, the stimulation in the female of iso-antibodies to the spermatozoa of the same species has been tried, with administration either parenterally or by the vaginal [6] route. Passive transfer of antispermatozoal antibodies produced in an animal of another species has also been tried; but this method has obvious disadvantages, especially in the human. Undoubtedly, the most succesful method to date is the production of aspermia and testicular atrophy by the homologous or autologous injection of spermatozoa or testis emulsified in Freund's complete adjuvant. This method, however, has the serious drawback that its successes are irreversible.

Another, and extremely important, facet of this work concerns the role of autoimmune reactions to spermatozoal antigens in the genesis of male sterility in man. Rumke,[7] of Amsterdam, has described an extensive study in which for four years the serum of every patient attending the Amsterdam Male Infertility Clinic was tested for sperm agglutinins by the method of Kibrick et al.[8] In 62 of the 1913 patients studied, agglutinins were found with a titre of 32 or higher. None of 416 control sera from fertile males gave sperm agglutination to this titre, and only 4 gave a titre of 16. Rumke presents convincing evidence that the agglutinins are true antibodies. In 16 out of 21 cases of azoospermia, spermatogenesis was apparently normal but the efferent ducts were blocked by the agglutinated masses of spermatozoa; and in several of these cases sperm were found in the interstitial tissues of the epididymis, often accompanied by a plasma-cell reaction. It is presumably this penetration of the tis-

1. Landsteiner, K. Zbl. Bakt. 1899, **25**, 546.
2. Metchnikoff, E. Ann. Inst. Pasteur, 1900, **14**, 1.
3. Metalnikov, S. ibid. p. 577.
4. See Katsh, S. Amer. J. Obstet. Gynec. 1959, **77**, 946.
5. Freund, J. Amer. J. clin. Path. 1951, **21**, 645.
6. Pommerenke, W. T. Phosiol. Zool. 1928, **1**, 97.
7. Rumke, P. Thesis, University of Amsterdam, 1959.
8. Kibrick, S., Belding, D. L., Merrill, B. Fertil. Steril. 1952, **3**, 430.

sues that brings the antigens of the spermatozoa into contact with antibody-forming cells; and yet spermagglutination seems to precede tissue penetration. But Rumke draws attention to another highly significant fact—namely, that mumps virus has exceptional power of spermagglutination: a property shown also, though to a lesser extent, by other members of the myxovirus group.

THE HYPERVENTILATION SYNDROME

VOLUNTARY forced overbreathing is one of the most familiar exercises in the physiology classroom, and the same chemical and haemodynamic consequences follow hyperventilatory states in clinical practice. According to Rice,[1] the hyperventilation syndrome occurs in one out of every ten patients attending the office of specialists in internal medicine, and it is by no means rare in this country. The symptoms and signs are due to the excessive removal of carbon dioxide leading to hypocapnia and respiratory alkalosis. The symptoms vary, but, apart from the obvious overbreathing, they usually include dizziness, faintness, or nausea, and numbness and tingling around the lips and in the extremities; there are often sensations of discomfort or constriction in the chest. The skin may become cold and clammy, and cyanosis may appear. After an initial rise the pulse-rate and blood-pressure fall, causing an almost shock-like appearance. These effects are explained by the changes in the mechanics of respiration, blood chemistry, and cardiovascular dynamics which accompany the hyperventilation[2].

Attacks of overbreathing are commonest in anxious persons with unstable cardiorespiratory neurogenic control,[3] and are usually precipitated by sudden emotional stress. No doubt fear of disease or death plays a large part in their exaggerated respiratory responses. It is therefore important that their symptoms should not be misinterpreted and organic disease wrongly diagnosed.[4] It is equally essential that the hyperventilation syndrome should not too readily be dismissed as "panic" or "anxiety" attacks; for in those liable to such attacks, and even in those who have never previously experienced them, the attacks may be precipitated by organic lesions. There is considerable danger that the symptoms and signs of the underlying organic disease may be submerged beneath the flamboyant marks of the hyperventilatory state or be confused with it. Aronson[5] describes eight patients in whom conditions such as coronary thrombosis, hiatus hernia, spontaneous pneumothorax, and acute cholecystitis precipitated hyperventilation. The ensuing complex clinical picture required very careful history-taking and examination for its elucidation.

Recognition of the hyperventilation syndrome may avert the diagnosis of an organic lesion where none exists, but hyperventilation must always prompt a search for the underlying cause. In most cases it will be psychogenic, but fear and panic may be induced by sudden and frightening symptoms of organic disease as well as by emotional upset. If the attack is inexplicable in these ways, a precipitating organic lesion must be sought. This is most likely to be either intrathoracic or just below the diaphragm. Lastly, it must be remembered that the respiratory centre can be directly stimulated by metabolic acidosis, as in diabetic ketosis, or by the action of salicylates.[6,7]

1. Rice, R. L. Amer. J. Med. 1950, **8**, 691.
2. Engel, G. L., Ferris, F. B., Logan, M. Ann. intern. Med. 1947, **27**, 683.
3. White, P. D., Hahn, R. G. Amer. J. med. Sci. 1929, **177**, 179.
4. Gliebe, P. A., Averback, A. J. nerv. ment. Dis. 1944, **99**, 600.
5. Aronson, P. R. Ann. intern. Med. 1959, **50**, 554.
6. Rapoport, S., Guest, G. M. J. clin. Invest. 1945, **24**, 759.
7. Winters, R. W., White, J. S., Hughes, C., Ordway, N. K. Pediatrics, 1959, **23**, 260.

MAJOR ACCIDENTS

NOT very seldom, an accident causes casualties too numerous to be treated properly by any one hospital in the locality. In a disaster of this kind the action taken is unlikely to be swift and effective unless it is thought out in advance. In the past few years much careful planning has been undertaken so as to devise arrangements which will work at any hour of day and night. The plan has to link the various services on which call must be made—the police, the hospitals, the ambulance and first-aid services, and the fire services, which deal not only with fires but also with the highly skilled business of moving heavy debris. Other factors that have to be taken into account are communications (the telephone services have sometimes been swamped) and the help that may be given by local doctors and by unskilled but willing members of the public.

Experience during and since the war has shown that, however carefully plans are made, there are always lessons to be learnt from their actual operation. Arrangements for the future have been helped, for example, by the experience gained in the Harrow railway disaster in 1952 and especially perhaps in the Lewisham crash in December, 1957, when conditions were unusual enough to provide a severe test.

After the Lewisham accident, Dr. James Fairley, senior administrative medical officer of the South East Metropolitan Regional Hospital Board, convened a series of meetings; and the result is a revised plan setting out what should be done, how it should be done, and who should do it. This plan accepts the view[1] that the doctor in charge of a mobile team has enough to do without also undertaking the general medical supervision of services at the disaster. Accordingly the arrangement now is that "a senior medical officer from the staff of the alerted hospital nearest to the disaster shall proceed with expedition to the scene—(a) to establish a medical services report centre, (b) to coordinate the medical and first-aid resources, and (c) to formulate the casulty evacuation plan in collaboration with the senior ambulance officer present."

Although the plan at first glance looks complex, the principles upon which it is based are clear. Any emergency or 999 call will be directed to the police, fire brigade, and ambulance services, and the first to be called on will alert the designated hospital nearest the accident. The hospital will send a senior doctor to carry out the tasks listed above; and on request, or after assessing the extent of the disaster from messages received, another senior doctor at the hospital will send a mobile medical team. On arrival at the site, the police and fire services will set up a control unit, and the senior medical officer will set up his 'medical services report centre" close to this. Ambulances already on their way will remove the first casualties; and, after devising a casualty evacuation plan with his colleagues, the senior medical officer will call up more mobile teams, ambulances, and other equipment, as circumstances may require. "All plans, both at the site for evacuation, and for the hospitals receiving, must be flexible", and both the senior medical officer on the spot and the hospitals to which patients are sent will have to be prepared to alter their arrangements as events turn out. The need to establish, at an early stage, an inquiry office where distracted relatives can get information without flooding the hospitals with inquiries has not been forgotten, nor the equally important need for suitable mortuary accommodation.

1. Lancet, 1954, i, 1226.

Special Articles

BIRTHDAY HONOURS

THE list of honours published on June 13 contains the names of the following members of the medical profession :

Baronet.—Robert Platt, M.D. Manc., P.R.C.P., professor of medicine, University of Manchester.

K.C.V.O.—Sir Archibald Montague Henry Gray, M.D. Lond., F.R.C.P., F.R.C.S.; Wilfrid Henry Sheldon, C.V.O., M.D. Lond., F.R.C.P.

K.B.E. (Military).—Air Vice-Marshal Francis Wilfred Peter Dixon, C.B.E., M.B. Melb., F.R.C.S., Q.H.S., consultant in surgery, Royal Air Force.

Knights Batchelor.—Dugald Baird, M.D. Glasg., F.R.C.O.G., regius professor of midwifery and gynaecology, University of Aberdeen ; Alexander Gillies, M.B. Edin., F.R.C.S.E., orthopaedic surgeon, Wellington Hospital, New Zealand ; Aubrey Julian Lewis, M.D. Adelaide, F.R.C.P., professor of psychiatry, University of London.

C.B. (Military).—Major-General Philip John Lauriston Capon, M.R.C.S., D.P.H., Q.H.P.

C.M.G.—Alexander John Haddow, M.B., D.SC. Glasg., director, East African Virus Research Institute, Entebbe, Uganda.

C.V.O.— Richard William Legerton May, M.B. Cantab.

C.B.E. (Military).—Colonel Timothy Michael Richard Ahern, O.B.E., M.B. Dubl., late R.A.M.C. ; Major-General William Dudley Refshauge, M.B. Melb., M.R.C.O.G., R.A.A.M.C. ; Air Commodore James Stewart Wilson, M.B. St.And., R.A.F.

C.B.E. (Civil).—John Hume Chiswell Clarke, M.B. Glasg., director of medical services, Cvprus ; Lindsay Alexander Dey, M.B. Sydney, physician, of Sydney, New South Wales ; William Arthur Glynn, M.R.C.S., director of medical services, Aden ; Albert Joseph Hawe, M.D. Lpool, F.R.C.P., physician specialist, Medical Service, Ghana ; Elfrida Lilian Gwendolen Hilton, M.B. Lond., F.R.C.S., F.F.R., director, radiotherapeutic department, University College Hospital, London ; John Oubridge Mercer, M.B. N.Z., F.R.C.P., pathologist, Wellington Hospital, New Zealand ; Marjory Winsome Warren, M.R.C.S., physician, geriatric unit, West Middlesex Hospital, Isleworth ; Thomas Wilson, M.D. Belf., formerly director, Institute for Medical Research, Federation of Malaya ; Leslie John Witts, M.D. Manc., D.M. Oxon., F.R.C.P., Nuffield professor of clinical medicine, University of Oxford.

M.V.O. (4th class).—Godfrey Fraser Carey, M.B. Cantab. ; Surgeon Commander Alan Peter Mayberry Nicol, M.R.C.S., R.N.

O.B.E. (Military).—Lieut.-Colonel Mortimer Francis Howlett Kelleher, M.C., M.B. N.U.I., M.R.C.P.E., R.A.M.C. ; Surgeon Commander Edward Boyd Martin, M.R.C.S., R.N. ; Wing-Commander Peter Donald George Venus Whittingham, M.D. Durh., R.A.F.

O.B.E. (Civil).—Olatunji Emeric Adeniyi-Jones, M.B. Manc., medical officer of health, Lagos Town Council, Nigeria ; Percival Douglas Cameron, M.D. Edin., formerly radiologist, Wellington Hospital, New Zealand ; Daphne Wai Chan Chun, M.B. Hong Kong F.R.C.O.G., professor of obstetrics and gynaecology, University of Hong Kong ; Leslie Colin Cook, M.D. Cantab., formerly medical superintendent, Bexley Hospital, Kent, and president, Royal Medico-Psychological Association ; Leonardo Sarto Da Silva, M.D., senior pathologist, Singapore ; William Edmondson Dorman, M.R.C.S., chairman, Medical Practices Committee, England and Wales ; James Angel Durante, M.R.C.S. medical officer of health, Gibraltar ; John Simon Rawson Golding, M.B. Cantab., F.R.C.S., senior lecturer in orthopaedics, University College of the West Indies ; James Henry Hale, M.D. Birm., M.R.C.P., professor of bacteriology, University of Malaya ; Ernest Arthur Hardy, M.D. Lond., M.R.C.P., specialist physician, Selangor, Malaya ; George Walker Ireland, M.B. Edin., general practitioner, Midlothian, member General Medical Council; James Fraser MacDonald, M.B. Edin., F.R.C.S.E., senior surgical spezialist, Northern Rhodesia ; John Reid Martin, L.R.C.P.E., for political services in County Tyrone ; Albert Musgrave, Merriweather, M.D. Edin., M.R.C.P.E., superintending missionary, Scottish Livingstone Hospital, Molepolole, Bechuanaland ; Doris Lyne Officer, M.B. Lond., medical officer, Free Kindergarten Union, State of Victoria ; William Tod Thom, M.B. Edin., director of medical services, Somaliland Protectorate ; Valentine Wilkinson, M.C., M.B. Cantab., F.R.C.S., medical officer, Waddon Industrial Rehabilitation Unit, Ministry of Labour and National Service.

I.S.O.—Harold Bertram Turbott. M.B., deputy director-general, Department of Health, New Zealand.

M.B.E. (Military).—Squadron-Leader Thomas Charles Douay Whiteside, M.B., PH.D. Glasg., R.A.F.

M.B.E. (Civil).—Grace Johnston Browne, M.B. Sydney, M.R.C.O.G., director of maternal and baby welfare, Department of Public Health, New South Wales ; James Knight Donald, M.B. Aberd., surgeon, Union Castle Line ; Sidney Leonard Gauntlett, M.B. Lond., medical superintendent, Chikankata Salvation Army Hospital, Northern, Rhodesia; Cecil Gordon Harper, M.R.C.S., of Woolgoolga, New South Wales ; Andreas Panayi Mikellides, M.B. Athens, mental specialist, Cyprus ; Arthur Parkinson, M. B. Melb., for services in the West Coast mining centres, Tasmania ; Augustus Alphonso Roberts, M.B., B.SC. Leeds, member of Leeds Medical Board, Ministry of Labour and National Service ; Michael Joseph Saunders, L.R.C.P.I., formerly medical officer, H.M. Borstal Institution, Portland.

Parliament

BOXING

Dr. Edith Summerskill asked the Prime Minister whether he was aware of the concern in the medical profession, an instance of which had been sent to him, about the medical dangers of boxing; and whether he would move to set up a Select Committee to inquire into the conduct of boxing contests with special reference to the physical damage sustained by the boxers and the adverse psychological effect on the audience.

Mr. Knox Cunningham asked the Prime Minister whether he was aware of the physical and mental value to youth of amateur boxing; and whether he would move to set up a Select Committee to inquire into the best methods of maintaining the highest standards in the refereeing and judging of contests, and in instructing would-be competitors.

Mr. Harold Macmillan, the Prime Minister, replied: I am not persuaded that the appointment of a Select Committee would be appropriate for either of these purposes. I think we should look to the bodies responsible for controlling the sport, both amateur and professional, to pay due regard to all these matters.

Obituary

GRANTLY DICK-READ

M. A., M. D. Cantab.

Dr. Dick-Read, who died on June 11, sought to persuade doctors, midwives, and mothers that parturition should, as a normal physiological process, be free from pain. His enthusiasm and vigour made his campaign a crusade, and a notably successful crusade, for few doctors were not brought to look on pregnancy in a new way by what Dick-Read wrote or said. Yet, like many ardent reformers, he believed his efforts were never as fruitful as they should have been; and, irked sometimes by the opposition that faces those who criticise established practice with almost imperious force, he probably underestimated the acceptance of the methods he advocated.

In his book Natural Childbirth, published in 1933, he maintained convincingly that much could be done by ridding women of the fears engendered by the illinformed and incomplate accounts of childbirth to which they were often exposed; and in Revelation of Childbirth (1942) he enlarged on the association of " tense woman, tense cervix ", leading to painful and difficult labour. He held that, by avoiding fear, childbirth could be made a beautiful and welcome experience, the crowning achievement of womanhood. He described too the inculcation of confidence during pregnancy and the technique of relaxation, now widely practised.

His eagerness contributed from time to time to difficulty and dispute, and he was not always ready to accord much weight to the experience of others: but without his restlessness and zeal he might have accomplished little. As it was, he stimulated, even intimidated, settled minds to think again about obstetrics, and much of the new thought brought ease to mothers, even though the complete fulfilment of " natural childbirth " may be possible only under the guidance of a personality as dominant and tireless as Dick-Read's.

In England Now

It was a perfect day, sunny and blue-skied—perfect not only for my flight but for Trooping the Colour. The heliport, about a mile from Battersea Bridge on the south bank, looked brand new. We were welcomed, offered insurance policies for the trip, and taken out to the red-and-white Westland Widgeon. A mechanic pulled life-jackets over our heads, tied tapes around our waists, and saw that our safety belts were fastened when we had climbed into the cabin. The "Perspex" canopy was closed, the rotors roared, and we were off, rising vertically and then whirring down the Thames at about a thousand feet. The barges in the greenish-yellov river were like cross-sections of French beans, the Albert Bridge like a cobweb slung across a cart-rut. The towers of Westminster leant up like a decorated wedding cake, and the Mall was a pink splodge. Minute lines of red-clad figures, fringed with variegated borders of equally minute spectators, were the troops on Horseguards' Parade. We shouted banal remarks to one another above the roar of the rotors: "Not many people seeing the Trooping from above!" Then on downstream, bridges reeling past, the Festival Hall glittering in the sun, the network of railway tracks at Waterloo and London Bridge, toy trains gliding along, the Tower, and then the docks. Their immensity restored London to its everyday stature. This was no Toytown, but a complex expanse of basins, interwoven roads and railways, and the homes of the myriad workers in this busy world. Greenwich Park and the Royal Maritime Museum seemed almost trivial beside this unguessed-at aspect of London's greatness. And everywhere this vast city of ours faded into the haze of its enormous distances. Looking dovn on London? A helicopter trip does not favour this attitude except in the physical sense.

* * *

The people who designed our small and overcrowded library obviously decided to make up in height for lack of floor space. The rows of dull red bound journals stretch into a distant spiderhaunted darkness. For acrophobic researchers this presents a serious problem: how are they to get at the vital volume which is always out of their reach?

At present there are three practical ways. In the unlikely event of its not being on the very highest shelf, you can find a solid-looking chair, creep across the library carrying it above your head, and place it by the shelf. Then, poised uncertainly on one toe, you may be able to prise the book from its row. The second method, a desperate one, is to use the ladder. This flimsy tubular affair rocks so violently that it is advisable to cling to the shelves with your hands while your foot waves about searching for the next rung. The third method is to pretend that you've no idea where the volume is, and ask the librarian to get it while you go to tea—a coward's way out.

As I sat resting after a particularly dangerous ascent, I remembered having seen grocers hook down cornflake packets from the top shelf with a stick, and catch them nonchalantly with one hand. Surely this method could be used in the library? To the argument that the books might be damaged, I would reply that unless something is done I shall be damaged.

* * *

Problem in medical etiquette.—Dr. A, on his way to a consultation with Dr. B whom he has not met before, has an altercation at the traffic lights with another driver, during which strong language is used on both sides. When he arrives at the patient's house, he finds that the other driver is Dr. B. Who speaks first, and what does he say?

Letters to the Editor

MORAL OBLIGATIONS

SIR,—Eryximachus ("Dialogues of Today", June 6), discussing the obligation of the Minister of Health to find alternative employment for doctors dealing with diseases which are dying out, stressed that doctors should not necessarily be entitled to compensation for loss of office. There is, however, a precedent for giving compensation—bankers, company directors, and members of the Armed Services and the Colonial Service receive it when they lose their jobs as a result of reorganisation. Also, unless compensation is guaranteed, doctors in certain specialties may have a vested interest in opposing progress; and, as Shaw[1] pointed out, the most antisocial vested interest is the interest in ill-health.

If Eryximachus is right, those of us in fever hospitals and sanatoria who have questioned whether the routine admission to hospital of patients with notifiable infectious diseases is a good thing have been most quixotic. We might have been better to have continued in the same routine as before and not have thought too much about unpleasant facts.

In this time of rapid change many older techniques are bound to become obsolete. Supposing some very effective ataralgesic agent were to be discovered, would the surgeons not be better able to assess its worth without bias if they knew that the welfare of their anaesthetist friends was not in jeopardy? It is not only a moral obligation, it is also plain common sense that the Minister of Health should guarantee compensation for doctors who lose their jobs through no fault of their own—preferably by finding other employment and providing any necessary preliminary training.

Ruchill Hospital, Glasgow H. G. EASTON

BOXING

SIR,—We maintain that the record of boxing in the British Isles of only 7 deaths over the past thirteen years is a good one, and compares favourably with other common sports. The proportion of fatalities in boxing is lower than in rugby football, association football, and horse-riding. You say that "on May 19 another welter-weight champion, aged 24, . . . was reported to be in hospital after an intracranial haemorrhage": in fact it has yet to be determined whether or not his condition had any connection with boxing.

You mention brain injury, imbecility, blindness, and death: during thirty years of supervision of amateur boxing we have seen only 1 case of traumatic encephalopathy (in an Army boxing trainer who for some years had spent most of the day instructing boxers). As for imbecility, we have only to mention Harry Mallin and Len Harvey who had 400 amateur and professional bouts, and whose mentality is as normal as that of any man of their age and social position.

We have done 57 E.E.G.s in three years on amateur boxers who had severe concussion; and examination after only one month showed no abnormalities. We have never met a case of blindness following boxing; and in thirty years we have seen only 2 cases of detached retina, and in each, operative treatment was successful. You say that "most of the hazards of boxing are cerebral". On average, only one blow in ten strikes the head and only one bout in sixty ends in a knockout. In 4350 contests held under the auspices of the London Amateur Boxing Association during 1957-58, there were 137

1. Shaw, B., preface on doctors in "The Doctor's Dilemma", 1911.

injuries and of these 57 were minor cuts. There were 60 knockouts and 9 cases of amnesia without loss of consciousness.

Our experience has shown that Kaplan and Browder's conclusion "that few neurological signs are found after knockouts" is correct. We have also records of boxers over a period of years; and we find no cases of "progressive deterioration of cerebral function".

No pathological changes have been found to confirm the "punch-drunk" symptoms; and many of the symptoms attributed to traumatic encephalopathy can be otherwise explained.

Your statement that television audiences may see "some unsuspecting boy battered to death" is irresponsible. If an amateur boxer is being outclassed or is unable to defend himself, the bout is stopped immediately.

We consider that amateur boxing is a useful, healthy, and worthwhile sport. It affords boys the opportunity of physical training and teaches them self-control and sportsmanship. It is very helpful psychologically to both aggressive and inadequate boys. We claim that in amateur boxing medical supervision is as good as that in any sport, and better than in most. Every amateur boxer on joining a club has a complete medical examination. He is examined before each bout; if he is not fit, he is not allowed to box. There is a doctor present during the bouts and all necessary first-aid is available. Each boxer has a card on which such injuries as he receives are recorded, and he is not allowed to box for specific periods after specific injuries—in the case of a knockout, four weeks.

All sports have their hazards. Boxing injuries rank eighth in frequency of sporting injuries. With strict medical control amateur boxing will continue to play an important role in the sporting activities of the Services, universities, schools, and youth clubs.

J. L. BLONSTEIN
J. SHARP GRANT
EDWIN CLARKE
W. D. COLTART
MAXWELL P. ELLIS
F. N. GLOVER
E, HUME KENDALL
H. LERMAN
C. T. NEWNHAM
GUY RIGBY-JONES
IAN G. ROBIN
A. RUGG-GUNN
E. B. STRAUSS
F. HAYDEN TAYLOR

Honorary Medical Officers, Amateur Boxing Association.

SIR,—As you point out in your leader of June 6, there is plenty of evidence to show that punch-drunkenness is a very real hazard to boxers. Because of the chronic course and long latent interval which precedes the onset of symptoms of punch-drunkenness very few pathological studies have been made on the nervous system. We suspect that a considerable number of punch-drunk boxers eventually die in mental hospitals, where facilities for detailed pathological examination of the nervous system are not usually available.

We have for a long time been interested in the pathology of chronic head injuries and we should welcome the opportunity to examine the brains of any of these punch-drunk cases. Would anyone who is willing to let us have such material send it to us and if possible get in touch with us (Rodney 6333) before beginning any necropsy?

We should also like to examine the brains of acute cases (i.e., boxers dying soon after a bout) and if we could be of assistance to pathologists carrying out necropsies for coroners in studying such cases we should be glad to help.

Department of Neuropathology, Maudsley Hospital, London, S.E.5.

PETER DANIEL
SABINA STRICH.

SIR,—There are advantages for boys and youths in learning boxing, and it is unlikely that boxing would be prohibited in Britain. It encourages pluck, and enables a boy to defend himself and others against bullying, and adults to defend themselves against criminal attack.

If, however, general medical opinion is that in boxing serious injury to brain and eyes often occurs, a convention might be established, at least in amateur boxing, prohibiting blows above the neck, just as blows below the belt are not allowed. Or boxing gloves could be better padded and perhaps larger, to eliminate or reduce possible damage to brain and eyes, or a knockout. The winner of a round could then be determined, as in foil fencing, by the number of effective hits made by him.

London, W.2. JAMES P. BRANDER.

SIR,—There are many in my country who definitely hold the view that it is time this "barbaric" game was stopped. The only sensible course is to discourage youngsters from the sport. If this step is not effective, it should be the clear duty of the authorities to abolish boxing by legislation.

A leading newspaper in India commented the other day that "the brutal fact is that as purses become larger, boxing techniques become more vicious and audiences grow more sadistic; the once noble sport of fisticuffs has become, by now, little short of organised butchery . . . . There is nothing unsporting in stopping our young men from knocking each other—not cold—but into the next world."

Bombay. K. D. UMRIGAR.

SEMINOMA OF TESTIS ASSOCIATED WITH ACUTE APPENDICITIS

SIR,—The following case of seminoma of the right testis with pain in the abdomen is reported because the clinical picture suggested pain due to metastases; but in fact the patient had acute appendicitis, though pain and history were not typical.

A healthy man of 41, a rigger in a colliery, was admitted to the surgical ward of the Caerphilly Miners' Hospital on Oct. 31, 1958. His main complaint was a dull intermittent pain in the right lower quadrant of the abdomen for nine months. For two days before admission the pain was continuous and more severe than any he had in the past. There was no history of sickness or vomiting, but he had had continued frontal headaches over the past twenty-four hours. His bowels were regular and there were no urinary symptoms or past history of illness or injury.

He was a well-built healthy man. Pulse 84 per min., regular; temperature 100·4°; tongue not coated. There was an obvious swelling of the right scrotum, about which he had never complained, but on questioning stated that he had noticed his right scrotum gradually enlarging during the preceding nine months, but it was painless. He was conscious of no injury to his right scrotum, but it was of course possible that he might have knocked it sometime. The testicle was uniformly enlarged and smooth, with soft compressible bosses on its surface, and it was heavy. The epididymis could not be felt. Testicular sensation was absent on the right side. There was much tenderness on the right side of the abdomen 2½ in. below and lateral to the umbilicus, and there was also a feeling of a vague mass at the same site. Rebound tenderness was also noted. No abnormality was detected on rectal examination.

In view of his extreme tenderness it was decided to do an indirect laparotomy. Palpation of the abdomen

under general anaesthetic confirmed a small mass to the right and outer side of the umbilicus. A McBurney incision was made and the peritoneum opened : a retrocaecal gangrenous appendix was found and a small mass of lymph-gland metastases was noted by the side of the aorta. The appendix was removed, the wound closed, and the incision extended downwards. The spermatic cord was exposed at the internal abdominal ring and an orchidectomy was performed. The cremastor muscle on the cord appeared hypertrophied. Naked-eye appearance of the tumour showed a whitish homogeneous mass with scattered necrotic areas. Histologically it was a seminoma.

There was no typical history of central abdominal pain, later localising to the right iliac fossa, nor was there any history of sickness or vomiting, although there was a raised temperature of 100·4. In the abdominal syndrome due to secondary metastases from testicular tumour acute symptoms have been described [1] simulating an appendix abscess or suggesting an ileocaecal tumour.

I wish to thank Mr. Hugh Jones, consultant surgeon to Caerphilly Miners' Hospital, for permission to publish this case.

Caerphilly District Miners' Hospital, Caerphilly. B. N. BAIJAL.

MEGALOBLASTIC ANAEMIA OF PREGNANCY AND THE PUERPERIUM

SIR,—The paper by Dr. Giles and Dr. Shuttleworth [2] contains interesting observations, and records an unusually high incidence of megaloblastic anaemia in pregnancy and puerperium.

The diagnosis of megaloblastic anaemia was based on the morphology of the bone-marrow, a high serum-iron, and a response to folic-acid administration. The morphological criteria for terming this anaemia megaloblastic seem equivocal, since the authors themselves state that the interpretation of marrow films was "not always easy", and in a third of their cases transitional megaloblasts were found. This point was also brought up in your editorial in the same issue. The response to folic-acid treatment cannot be interpreted as an indication of folic-acid deficiency since the haematological changes in pernicious anaemia—a disease due to vitamin-B_{12} deficiency—respond to folic-acid treatment as well.

A different approach has been developed in an attempt to establish the nature of the deficiency by quantitative determination of the blood-levels of the lacking or deficient haematopoietic factors—i.e., iron, vitamin B_{12}, folic acid.

The different pathogenesis of macrocytic anaemia in pregnancy is well illustrated by the fact that Mollin and Ross [3] found normal serum-vitamin-B_{12} levels in 29 out of 31 pregnant women with megaloblastic anaemia. Tasker et al.,[4] working in Malaya, found low serum-vitamin-B_{12} in 10% of pregnant women, whereas we observed low vitamin-B_{12} levels in a high proportion of pregnant anaemic women, with a frequent combination of iron and vitamin-B_{12} deficiencies.[5]

We agree with Dr. Giles and Dr. Shuttleworth that many factors may be responsible for the anaemia of pregnancy, and more extensive study will be necessary before all these factors can be elucidated.

Mayer de Rothschild Hadassah University Hospital, Jerusalem. M. RACHMILEWITZ
G. IZAK.

1. Gordon-Taylor, G., Wyndham, N. R. Brit. J. Surg. 1947, **35**, 6.
2. Giles, C., Shuttleworth, E. Lancet, 1958, ii, 1341.
3. Mollin, D. L., Ross, G. I. M., Proc. R. Soc. Med. 1954, **47**, 428.
4. Tasker, A. W. G., Mollin, D. L., Berriman, H. Brit. J. Haemat. 1958, **4**, 167.
5. Izak, G., Rachmilewitz, M., Stein, Y., Bercovici, B., Sadowsky, A., Aronovitch, J., Grossowicz, N. Arch. intern. Med. 1957, **99**, 346.

HEART-DISEASE AND INFLUENZA

SIR,—I wish the valuable paper by Dr. Bourne and Dr. Wedgwood (June 13) could have been published nearer the event—the influenza epidemic of 1957—to stimulate others to record similar experiences while they were fresh in the memory.

The paper describes cardiac complications in adults with influenza. It should be emphasised that in infants, too, the heart may be affected.

During the 1957 epidemic, among the patients admitted to paediatric wards under my care with a diagnosis of influenza and pulmonary complications, 6 infants were in heart-failure. Unlike the adult cases described, none had bradycardia or arrhythmia. With appropriate treatment they recovered and there was no subsequent evidence of heart-disease. Had a healthy heart been affected by the influenza or by the secondary pulmonary infection? The evidence summarised by Dr. Bourne and Dr. Wedgwood suggests that the former may have played some part at least.

These 6 cases form part of a series of 50 infants with heart-failure which Dr. K. Simpson and I hope to publish in order point a moral. The moral is that heart-failure in infants is fairly common, though diagnosis is uncommon. The reason, we think, is that heart-failure may not present in the same way in infants as in adults. To diagnose the underlying cause of heart-failure may or may not be urgent; to diagnose cardiac failure itself often is extremely urgent, for, if heart-failure is not diagnosed, what may be life-saving treatment will be withheld.

Bristol Royal Hospital for Sick Children. JOHN APLEY

WASHING WALLS IN HOSPITAL

SIR,—The correspondence on dirty hospitals in Britain makes sad reading. It may be helpful to tell your readers how the problem is solved in a large teaching hospital in Australia, or the Royal Newcastle Hospital, of which Dr. C. J. McCaffrey is superintendent.

All the washing of walls and ceilings is done by the hospital cleaners who use a platform on wheels, and long-handled mops with a flat surface for washing and drying them. The whole compact apparatus including the water containers is obtained from Revvi, Ltd., 70'Blackstone Road, London, N.4. There is no mess and no water is spilled on the floor.

Operating-theatres are washed daily up to 6 feet, and the entire theatre, including ceilings, every week. Wards are washed weekly up to 6 feet and the whole ward, including ceilings, 4 times a year. The same applies to corridors.

Tiles are not favoured for walls, since the cement junctions are hard to clean and cracks cannot easily be made good. Enamel paint is therefore used instead.

Sydney, New South Wales. F. J. BROWNE.

THE CHROMOSOMES OF MAN

SIR,—In your leading article of April 4 you suggest that further work along these lines in generalised neoplasias and leukaemias may reveal similar chromosomal anomalies. I would suggest that, in particular, cases of acute leukaemia showing the blood-group change of double-red-cell population may possibly prove fruitful in this type of investigation. So far, two such cases have been described,[1 2] but now that attention has been drawn to the phenomenon of double cell population in leukaemia it is likely that other cases will follow.

South-West Regional Transfusion Centre, Bristol. E. R. GOLD.

1. Salmon, C., Dreyfus, B., Andre, R. Rév. Hemat. 1958, **13**, 148.
2. Gold, E. R., Tovey, G. H., Benney, W. E., Lewis, F. J. W. Nature, Lond. 1959, **183**, 892.

THE MEDICAL SUPERINTENDENT

SIR,—There are serious defects in the arguments put forward in the letter from Fulbourne Hospital. Few other mental hospitals are in the same position, linked with a teaching hospital, and with a large proportion of part-time senior staff. Moreover, in all hospitals a medical administrator grows older; and the situation after fifteen years of authority has been channelled through one man will certainly be different. Even when a mental hospital is apparently at the peak of its potentialities, it is still possible to see the hindrance to change and development which can result from the administrative structuring.

The bounds of the mental hospital tend to be limited by the concerns, interests, and capacities of the medical superintendent. If, under the coming legislation, this large organisation is broken up into smaller (but still substantial) groups with a senior clinician and his team as the nominal unit, it may well lead to revision of the conceptual boundaries of psychiatric work for many present whole-time doctors in mental hospitals. In effect, psychiatry could break out of the mental hospital; and, so long as the administrative arrangements are not restrictive, it could find a new and more effective place in the community. It is perhaps significant that one thinks in terms of psychiatrists coming to have beds in general hospitals. A further step may well be to envisage other specialists taking over beds in the mental hospitals. But nobody can begin to think like this unless the imaginative provisions of the Mental Health Bill can be made truly effective inside the mental hospitals as well as elsewhere in the community.

Romford, Essex. R. W. CROCKET.

COARCTATION OF THE AORTA FOLLOWED FOR TWENTY-FIVE YEARS

SIR,—I was interested in Dr. Cookson's case of coarctation of the aorta followed for 25 years (June 6). In a review[1] of twenty-three Service cases, I pointed out that patients with coarctation of the aorta may live for many years after the first appearance of signs and symptoms and in spite of persistent hypertension. Three patients I described served in the first world war. In one, coarctation of the aorta was first diagnosed by the late Sir Thomas Lewis. A systolic blood-pressure of 240 was noted in 1917, but in spite of this severe hypertension, and heart-block which developed in later years, he lived to 68. Another died from congestive failure 25 years after the onset of symptoms, and in a third a blood-pressure of 200/90 was first recorded in 1925, and 21 years later in 1946, at the age of 54, he was still alive, the heart showing triple rhythm at the apex but no congestive failure.

London, N.W.3. MAURICE NEWMAN

DOCTOR AND FACTORY

SIR,—The letter from Dr. Tyrer (May 30) is particularly ill-timed coming as it does when the Central Ethical Committee of the B.M.A. has asked the Occupational Health Committee to make suggestions for a revision of the Ethical Rules for Industrial Medical Officers. Incidentally the Central Ethical Committee have already accepted that the "rules" shall be known in future as an Ethical Code for Industrial Medical Officers.

I do not wish prejudice the discussion between the two Committees of the B.M.A., so my only comment is to call the attention of the profession to two words which were used—"primarily treatment".

S. NOY SCOTT

Plympton, Devon. Chairman, Central Ethical Committee, British Medical Association.

1. Brit. Heart J. 1948, **10**, 150.

DUODENAL-STUMP FISTULA

SIR,—In cases of duodenal-stump fistula Mr. Kenneth Chambler[1] suggests the use of milk, impervious dressing, and efficient surface-suction for skin pretection. These methods, though excellent, are not always practicable.

In several such cases I observed very good results from the use of a paste made in the following way: the yolk of an egg is placed in a sterile bowl, and heavy kaolin (bolus alba) is added in small amounts and mixed thoroughly with a pestle until a paste of the necessary consistence is obtained. With a sterile spatula this paste is immediately applied to the fistula and the eroded skin around it. Then more heavy kaolin is spread over the paste and in the vicinity of it. A sterile dressing is applied and changed every day (the paste must of course always be renewed too). The paste adheres well to the skin, absorbs the fluid efficiently, and competes excellently with the skin for the enzymes of the fistula-fluid. The burning discomfort is relieved very soon.

Heavy kaolin is an excellent remedy. I introduced it[2] for the treatment of burns (1st and 2nd degree), generously applying it daily on the burned surfaces. It is very effective, simple, and cheap.

Budapest, Hungary. ANDREW MAKAI.

BREAST CANCER

SIR,—Is survival the only objective of treatment? That is just one ugly question which rears its head in the face of Professor Watson's conclusions (June 6), concerning the treatment of breast cancer. Here is yet another excellent analysis of a large series of cases, but Professor Watson's conclusions are based upon a comparison of McWhirter's figures up to 1947 with his own figures up to 1952. Between 1947 and 1952 there was considerable advance in our knowledge of antibiotics and endocrine therapies. When one is dealing with such a short survival period either of these factors may well influence the figures by dealing with intercurrent disease, or prolonging the dying process.

Professor Watson states that morbidity after radical mastectomy is not serious, but he gives no figures. There are reasons therefore to quarrel with his final sentence: "Radical mastectomy and postoperative irradiation therefore is the treatment of choice in cancer of the breast in operative cases". He may be right, or he may not, but when the statistical "therefore" is based upon such vague terms as "suitable" and "operable" it would be wiser to regard any prescription as the treatment of his choice in his area.

London, W.1. D. F. ELLISON NASH.

ADVANTAGES OF THE SEALED COLOSTOMY BAG

SIR,—The sealed colostomy bag described by Mr. Nicholas (June 6) may present a slight difficulty to those patients whose colostomy is passing a lot of wind. This difficulty was pointed out in our booklet, The Home Management of a Colostomy, and can easily be overcome by constructing a simple valve, as follows:

About 1 in. from the top of the bag, but clear of the top fold, make a cut in the polyethylene about 3/8 in. long. Cover this with a piece of lint about 1 in. × 1/2 in. to which has been fixed a piece of adhesive tape 1/2 in. wide and sufficiently long to extend beyond the length of the lint in each direction. Press the tape firmly on to the bag.

Harker Stagg Ltd., London, E. 1. R. L. SWAN.

1. Lancet, 1958, ii, 1303.
2. Makai, A. Münch. med. Wschr. 1929, **76**, 574.

PHENYLBUTAZONE AND PROLAPSED INTERVERTEBRAL DISCS

SIR,—I was interested in Dr. Gillhespy's letter of March 7, and Dr. Barbor's of March 14, about the phenylbutazone treatment of pain caused by protrusion of the nucleus pulposus. I should like to record my own experiences with combined conservative treatment in 30 patients (20 men and 10 women).

Most patients complained of pains in the lower back or leg, or both, mainly after acute trauma.

Treatment was as follows : bed rest on a hard mattress, 5 ml. " Irgapyrin " (750 mg. phenylbutazone, and 750 mg. amidopyrine) intramuscularly daily for one week; and later for another week the same drugs every other day, and epidural injection of 1% procaine 20-30 ml. two or three times, depending on the pain. If this does not bring considerable relief after two weeks, further investigation is recommended.

Results were good in 18 patients, moderate in 9, and poor in 3.

General Hospital, Jászberény, Hungary. JÁNOS IVÁNYI.

JAUNDICE AND HALOTHANE

SIR,—Thousands of anaesthetics have been given in this country with halothane as the primary agent without any reported jaundice (recorded in Dr. Barton's letter of May 23). In our hospital we have given halothane to many patients with obstructive juandice without apparent aggravation of this symptom. Several studies of the effect of halothane on the liver have shown that it is no worse than that of other primary anaesthetics in common use.

But Dr. Barton's observations should not be passed by lightly. It would help other anaesthetists to evaluate this observation if he mentioned more details of his anaesthetic technique, other drugs used during premedication as supplements to the anaesthetic, and during the postoperative period. He might check other possibilities (transfusion reactions, homologous serum jaundice). He might also check with his colleagues whether there was a coincidental outbreak of infectious hepatitis during this time.

Department of Anaesthesia,
University Hospital,
Saskatoon, Canada. ALLEN B. DOBKIN.

INFECTIVE HAZARDS OF WATER CLOSETS

SIR,—The paper by Surgeon-Commander Darlow and Mr. Bale (June 6) is interesting and important. It appears that the aerosol, in addition to the macroscopic splash described by Hutchinson, may contaminate the seat of the water-closet. Your editorial casts some doubt on the importance of the aerosol in the spread of intestinal infections, but there can surely be little doubt of the role of the infected seat. Hutchinson[1] found 11 out of 34 seats to be infected at the time of occurrence of a case of Sonne dysentry in the house. She observed that a not inconsiderable proportion of children handled both the seat and their mouths and faces while sitting at the water-closet. She also found that during an outbreak as many as 50% of children might be hand-carriers of Sonne dysentery after visiting the water-closet. What more evidence is required of the importance of the infected seat? By all means let us examine the possibility of replacing the hand-operated flush by the foot-operated pedal as you suggest; but should we not also be giving some thought to the possible advantages of appliances like, for example, the siphonic closet in reducing contamination of the seat by splash or aerosol?

J. CLANCEY
IAN TAYLOR

1. Hutchinson, R. I. Mon. Bull. Minist. Hlth Lab. Serv. 1956, **15**, 110.

INFLUENZA AND ADRENOCORTICAL INSUFFICIENCY

SIR,—Referring to the interesting paper by Dr. Skanse and Dr. Miörner (May 30), an observation of ours seems to confirm their point. In March and April this year, among many cases in the Aarhus Kommunehospital, in only 2 deaths was influenza the main cause. One patient was a 20-year-old woman, who, at the age of 28, had had severe postpartum haemorrhage. She then had hypomenorrhoea until menstruation ceased at 36. For many years she felt tired, but not until she was 67 was Sheehan's syndrome diagnosed. Cortisone was given but had to be stopped because of extensive oedema. Another attempt to give cortisone two years later had to be discontinued for the same reason. For some years she had angina pectoris, and on March 23 she was readmitted to hospital because of cardiac pain. After a few days she improved but on April 1 her temperature rose like that of other patients in the same ward. She was very weak even though her blood-pressure did not fall. Intravenous hydrocortisone was given, but the response was poor and she died next morning. At the postmortem severe atrophy of the pituitary and the suprarenal glands was noted. No myocardial infarction or pneumonia or any other plausible cause of death was revealed.

Aarhus, Denmark. ERIK F. MOGENSEN.

News

After the Mental Health Bill has received the Royal Assent the Minister of Health proposes promptly to issue directions requiring local health authorities to provide community care and aftercare for all mental patients; to make an Order repealing the provisions of the present Lunacy Acts which prevent designated hospitals from receiving patients informally; to set up the mental health review tribunals; and to prepare the various rules and regulations required under the Act.

Dr. Geoffrey Organe has been re-elected dean of the Faculty of Anaesthetists of the Royal College of Surgeons of England, and Prof. E. A. Pask has been re-elected vice-dean. Dr. Ashley Daly has been admitted to the honorary fellowship of the Faculty.

On June 6 the degree of D.M. in the University of Oxford was conferred on S. F. Taylor and Jean Ginsburg.

On June 13 in the University of Cambridge the degree of M.D. was conferred on J. H. Angel, J. E. MacIver, and M. J. Purves, and the degree of M.B. on Margaret U. Bullen, Andrea M. D. Langford, amd P. O. Liebling.

The following have been appointed to readerships in the University of London: Dr. J. F. Smith (morbid anatomy, University College Hospital Medical School), Dr. R. E. M. Thompson (bacteriology, Middlesex Hospital Medical School), and Mr. J. E. H. Williams (criminology, London School of Economics and Political Science).

Dr. A. N. MacPhail has been appointed senior lecturer to the department of preventive medicine and public health in the University of Leeds.

The following appointments have been made in the University of Sheffield: Dr. C. E. Blank, lecturer in medical genetics; Dr. Duncan Macmillan, honorary lecturer in psychiatry; and Dr. David Verel, parttime lecturer in cardiology.

The degree of M.D. in the University of Bristol has been awarded to George Hudson, C. D. R. Pengelly, and R. J. Sandry.

At the annual meeting of the Royal Society of Tropical Medicine and Hygiene, held in London on June 18, Sir William MacArthur was inducted as president for the forthcoming two years; and the society's Manson medal was presented to Colonel H. E. Shortt and its Chalmers medal to Dr. J. R. Audy.

Dr. J. Englebert Dunphy, professor of surgery in the University of Oregon, will give a Moynihan lecture at the Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C.2, on Wednesday, July 8, at 5. P.M. His subject will be the nature and care of wounds.

Dr. E. A. Kabat, of the Presbyterian Hospital, Columbia-Presbyterian Medical Center, New York, will give a lecture at the National Institute for Medical Research, Mill Hill, London, N. W. 7, on Wednesday, July 8, at 5 P.M. His subject will be immunochemical studies on dextrans.

The next meeting of the Biochemical Society will be held in the department of biochemistry at the University of Liverpool on July 16 and 17.

The annual general meeting of the governors of Epsom College will be held on Wednesday, July 15, at 3.30 P.M., in the council room of the Medical Defence Union, Tavistock House South, London, W.C.1.

The annual meeting and dinner of the Cambridge Graduates' Medical Club will be held at Trinity Hall on Friday, July 3. Members of the club who have not yet been notified, and other Cambridge men who are interested, should write to Mr. H. H. E. Batten, F.R.C.S., 69, Bridge Street, Cambridge.

The proceedings of the 2nd World Congress on Fertility and Sterility, held at Naples in May, 1956, have been published in two volumes by the Institute of Clinical Ostetrics and Gynaecology, University of Naples. The congress was attended by 1200 workers from sixty-five countries, and the proceedings contain sections on the diagnosis and treatment of sterility, and accounts of the round-table discussions.

Vacancies

ACADEMIC AND EDUCATIONAL
Middlesex Hosp: Med: School, W. 1
Leverhulme Res. Scholarship.
St. Mary's Hosp: Med: School, W. 2
Sr. Lecturer in Pathology.
London Hosp: Med: College, E. 1.
Lecturer in Morbid Anatomy.
Manchester University. Tutor in Clin: Obst. & Gyn.
Sheffield University. Lecturer in Bacteriology.
Manchester University. Course Industrial Med:
Canada. Research Lab: Fellowship in Metabolic Studies.
Chest & Heart Assoc:, W.C. 1. Symposium (Cardiac Disease).
Cambridge University. Elmore Research Studentship.
Royal Faculty of Phys: & Surgeons of Glasgow. Lock Res: Fellowship.
King's College Hosp: Med: School. Roussel Res: Fellowship (Steroid Endocrinology).
Edinburgh University. Lecturer in Physiology.
British P.G. Med: Fed: (Inst. of Orth:) Asst: Clin. Path.

ADMINISTRATIVE
Wessex R.H.B. Deputy Sr. Admin. M.O.

ANAESTHETICS
Middlesex W. 1. P.-t. Cons
North Middlesex, N. 18. Sr. H.O.
Guy's, S.E 1. Reg.
Manchester R.H.B. Reg.
Winchester. Royal Hants County. H.O.
South East Met. R.H.B. Reg.
Sidcup. Queen Mary's. Sr. H.O.
Taunton & Somerset. Sr. H.O.
Bolton & Dist. H.M.C. Sr. H.O.
Torquay. Torbay. Sr. H.O.
Portsmouth Group H.M.C. Sr. H.O.
Leeds R.H.B. P.-t. Cons.
Bournemouth. Royal Victoria. Sr. H.O.
South East Met. R.H.B. & Guy's, S.E. 1. Reg.
Scotland. Northern R.H.B. Locum Sr. Reg.
Oxford R.H.B. Reg.
Manchester. South Manchester H.M.C. Sr. H.O.
Romford. Oldchurch. Sr. H.O.
Cheltenham Group H.M.C. Sr. H.O.
Pontypridd. East Glamorgan. Sr. H.O.
Blackburn Royal Infy. Sr. H.O.
Swindon & Dist: H.M.C. Sr. H.O.
Isleworth. West Middlesex. H.O.
Blackpool Victoria. Sr. H.O.

CASUALTY
Sheffield United Hosp. Sr. H.O.
Rochester. St. Bart's. Sr. H.O.
Bromley, Kent. Sr. H.O.
Salisbury Gen. Locum Sr. H.O.
Rugby. Hosp: of St. Cross. Jr.H.M.O.
Sheffield City Gen. Reg.
Kingston, Surrey. Reg.
Middlesbrough Gen. Sr. H.O.
St. Giles', S.E. 5. Sr. H.O.
Watford Peace Mem. Sr. H.O.
Nottingham Gen. Sr. H.O.
Reading & Dist: H.M.C. Sr. H.O.
Brighton. Royal Sussex Country. Jr. H.M.O.
Plymouth. South Devon & East Cornwall. Sr. H.O.
Hertford County. Sr. H.O.
Cambridge. Addenbrooke's. Sr. H.O.
Liverpool. Sefton Gen. Sr. H.O.
Ashton, Hyde & Glossop H.M.C. Jr. H.M.O.
Portsmouth Group H.M.C. Sr. H.O.
Norwich United Hosps. Pre-reg. H.O.
Wigan. Royal Albert Edward Infy. Sr. H.O.
Ilford. King George. Sr. H.O.
Stoke-on-Trent. North Staffs Royal Infy. Sr. H.O.
Salisbury Gen. Sr. H.O.
Luton & Dunstable. Sr. H.O.
Coventry & Warwickshire. Jr. H.M.O.
St. Charles', W. 10. Sr. H.O.
Southend. Gen. Sr. H.O.

CHEST AND TUBERCULOSIS.
Leeds R.H.B. Sr. H.M.O.
Cardiff. Lansdowne. Sr. H.O.
Grimsby. Springfield Reg.
Denbigh. Llangwyfan. Sr. H.O.
Chester. Barrowmore. Sr. H.O.
Salford. Ladywell. Jr. H.M.O.
Skipton. Grassington. Sr. H.O. & Jr. H.M.O.
Sheffield United Hosps. Sr. H.O.
Brompton, S.W. 3. Reg.

DENTAL SURGERY.
National Dental, W. 1. P.-t. Cons.

DERMATOLOGY.
Birmingham R.H.B. Reg.

EAR, NOSE AND THROAT.
Medway & Gravesend H.M.C. Locum P.-t. Cons.
Whipps Cross, E. 11. Sr. H.O.
Ashton, Hyde & Glossop H.M.C. Sr. H.O.
St. Thomas', S.E. 1. Reg.
Ashford, Middx. H.O.
Royal National T. N. & E., W. Sr. Reg., Reg. & Sr. H.O.
Aylesbury. Tndal. Gen. H.O. or Sr. H.O.
Altrincham Gen. Reg.
Cambridge. Addenbrooke's. H.O.
Leeds R.H.B. Locum Cons.
Stoke-on-Trent. City Gen. Sr. H.O.
St. Asaph. H.M. Stanley. Sr. H.O.
Romford. Rush Green. H.O.
Blackburn. Royal Infy. & Queen's Park. Sr. H.O.
Metropolitan E.N.T., W. 8. H.O.

GERIATRICS.
Wolverhampton. New Cross. Sr. H.O.
Leeds R.H.B. Sr. H.M.O.
Central Middlesex, N.W. 10. H.O.
Hastings Group H.M.C. P.-t. Locum Cons.
Bromley, Kent. Sr. H.O.

INFECTIOUS DISEASES
Ayrshire. Central. Jr. H.M.O.
Stockport. Cherry Tree. Sr. H.O.

MEDICINE
Wolverhampton. New Cross. H.O.
Rochdale & Dist. H.M.C. H.O.
Rochford. Essex. Gen. Pre-reg. H.O. & Locum Reg.
Wolverhampton. Royal. Pre-reg. H.O's.
Portsmouth Group H.M.C. Sr. H.O's & Pre-reg. H.O's.
Aylesbury. Royal Bucks. & Assoc: Hosps. H.O.
Rhymney and Sirhowy Valleys H.M.C. H.O.
Southport Gen. Infy. H.O.'s.
Wrexham. Maelor Gen. & War Mem. Hosps. H.O.'s.
Romford. Rush Green. Sr.H.O. & H.O.
Bournemouth. Royal Victoria. Pre-reg. H.O.'s.
Huddersfield. St. Luke's Sr.H.O.'s.
Birmingham, Little Bromwich. H.O.
Hull. Kingston Gen. Pre-reg. H.O.
Kingston, Surrey. Reg.
Lincoln. County. Pre-reg. H.O.
Salisbury Gen. H.O.
Bishop's Stortford. Herts & Essex Gen. Sr.H.O.
Ryde, I. W. County. Pre-reg. H.O.
Slough. Upton. H.O.
Mildmay Mission, E. 2. Pre-reg. H.O.
Sheffield United Hosps. Sr.H.O.
Bolton & Dist: H.M.C. Sr. H.O.'s & H.O's.
Altrincham Gen. Pre-reg. H.O.
Wigan. Royal Albert Edward Infy. Pre-reg. H.O.
Blackburn & Dist: H.M.C. H.O's.
Beverley. Westwood. H.O's or Sr. H.O's.
Carluke, Lanarkshire. Law. Sr. H.O. & Locum Sr. H.O. & H.O.
Worthing. H.O.
Norwich United Hosps. Pre-reg. H.O's.
Stoke-on-Trent. City Gen. H.O's.
Pontypridd. East Glamorgan. Sr. H.O.
Cheltenham Gen. H.O.
Hertford County. H.O.
Derby. Derbyshire Royal Infy. H.O. or Sr. H.O.
Accrington. Victoria. H.O.
Windsor. King Edward VII Pre-reg. H.O.
Cromer & Dist. Sr. H.O.
Tilbury & Riverside Gen. (Orsett Branch) Pre-reg. H.O.
Birmingham. Solihull. Sr. H.O. & Pre-reg. H.O.
Warwick. H.O.
St. Asaph. H.M. Stanley. Jr. H.M.O.
Pontefract Gen. Infy. Pre-reg. H.O.
Swindon & Dist: H.M.C. Pre-reg. H.O.
Stoke-on-Trent. North Staffs Royal Infy. H.O's.
St. Mary's, W. 2. Sr. H.O.
St. Leonard's, N. 1. H.O.
Dulwich, S.E. 22. Sr. H.O.
Shrewsbury. Copthorne. Pre-reg. H.O.
West Bromwich & Dist: Gen. Locum Reg.
Hastings. St. Helen's. Pre-reg. H.O. & Sr. H.O.
Chelmsford H.M.C. Locum Reg
Stratford-on-Avon. Gen. Sr. H.O.
Ashton, Hyde & Glossop H.M.C. H.O.
Blackpool. Victoria. Pre-reg. H.O.
Hereford County. Pre-reg. H.O.
South East Met: R.H.B. Reg.
Salford Royal. Sr.H.O.
Nottingham Gen. Pre-reg. H.O.
Manchester R.H.B. Reg.
Ellesmere Port. Jr.H.M.O.
Dreadnought Seamen's, S.E. 10. Pre-reg. H.O's.
Hereford Gen. Pre-reg. H.O.
Macclesfield. Sr. H.O.

NEUROLOGY
National Hosps. for Nervous Diseases. Reg.
Sheffield United Hospitals. Sr. H.O.

NEUROSURGERY
Middlesbrough Gen. Sr. H.O.
Bristol. Cossham & Frenchay H.M.C. Sr. H.O.

OBSTETRICS AND GYNAECOLOGY
Rhymney and Sirhowy Valleys H.M.C. H.O.
Plymouth. South Devon & East Cornwall H.O.
Kettering. St. Mary's. Sr. H.O.
Chelmsford. St. John's. Locum Sr. H.O.

Pontypridd. East Glamorgan Sr. H.O.
Huddersfield Royal Infy. H.O.
Stoke-on-Trent. City Gen. Pre-reg. H.O.
Charing Cross Hosp. Group. Reg.
Norwich United Hosps. Pre-reg. H.O. & Sr. H.O.
Epsom Dist Pre-reg. H.O. & Sr. H.O.
Bebington. Clatterbridge. Locum H.O.
Blackburn & Dist. H.M.C. H.O.
Blackpool. Glenroyd Maty. Pre-reg. H.O.
Bolton & Dist: H.M.C. H.O.
St. Albans City. Locum Sr. H.O.
Oxford R.H.B. Locum Sr. Reg.
Cheltenham Maty. H.O.
Manchester Withington. Sr. H.O.
Paddington Gen., W. 9. Reg.
Shrewsbury. Cross Houses. Pre-reg. H.O.
Romford. Oldchurch. H.O.

OPHTALMOLOGY

Nottingham Eye. Sr. H.O.
Royal Marsden, S.W. 3. P.-t. Cons.
Blackpool. Victoria. Jr. H.M.O.

ORTHOPAEDICS

Wolverhampton. Royal. Sr. H.O's.
Grimsby Gen. Sr. H.O.
Romford. Oldchurch. H.O.
Portsmouth Group H.M.C. Sr. H.O.
Wrexham. War Mem. Sr. H.O.
Ipswich & East Suffolk. H.O.
Newport, Mon. Royal Gwent. Jr. H.M.O.
Bournemouth. Royal Victoria. Sr. H.O.
Royal National Orthopaedic. Sr. H.O's
Liverpool. Sefton Gen. Sr. H.O's.
Medway & Gravesend H.M.C. P.-t. Locum Cons.
Beverley. Westwood. Sr. H.O. or H.O.
Carluke, Lanarkshire. Law. H.O.
Norwich United Hosps. Pre-reg. H.O. & Sr. H.O.
Ashford, Middx. H.O.
Doncaster Royal Infy. Reg.
Winchester. Royal Hants County. Sr. H.O.
Hastings Group H.M.C. Locum Reg.
Shrewsbury. Royal Salop Infy. Sr. H.O.
Queen Mary's (Roehampton), S.W. 15. Reg. & Sr. H.O.
Windsor. King Edward VII. Pre-reg. H.O.
Ilford. King George. Sr. H.O.
Ascot. Heatherwood Orthopaedic. Locum Reg.
Whitehaven. Cumberland. Pre-reg. H.O. or Sr. H.O.
Blackpool. Victoria. Pre-reg. H.O.
Nuneaton. Manor. Pre-reg. H.O.
Paddington Gen., W. 9. Sr. H.O.
Isleworth. West Middlesex. Sr. H.O.

PAEDIATRICS

Queen Elizabeth Hosp: for Child. Sr. H.O.
Derby. Derbyshire Child's. Sr. H.O.
Pontypridd. East Glamorgan. Sr. H.O.
Stoke-on-Trent. City Gen. H.O.
Norwich United Hosps. Pre-reg. H.O's.
Harold Wood, Essex. Sr. H.O.
Salford. Hope. H.O. & Sr. H.O.
Bolton & Dist. H.M.C. H.O.
Manchester. Royal Manchester Child's. H.O's.
Manchester. Duchess of York Hosp: for Babies. H.O.
Brighton. Royal Alexandra Hosp: for Sick Child. H.O.
Birmingham. Moseley Hall. Sr. H.O.
Nottingham City. Sr. H.O.
Blackburn & Dist: H.M.C. H.O.
Shrewsbury. Royal Salop Infy. Sr. H.O. or H.O.
Warwick. H.O.
Isleworth. West Middlesex H.O.

PATHOLOGY

Banbury. Horton Gen. Sr. H.O.
Rochdale & Dist. H.M.C. Sr. H.O.
Plymouth South Devon & East Cornwall Gen. Sr. H.O.
Hastings H.M.C. Locum Cons.
Royal Free Hosp. Group. Reg.
Derby. Derbyshire Royal Infy. Sr. H.O.
U. S. A. Rhode Island Hosp: Providence. Residencies.
Elizabeth Garrett Anderson, N.W. 1. Reg.
Bolton & Dist: H.M.C. Sr. H.O.
Salford. Hope. Sr. H.O.
Salford Royal. Sr. H.O.
Wigan. Royal Albert Edward Infy. Reg.
Leeds R.H.B. Sr. H.M.O.
Winchester. Royal Hants. County. Sr. H.O.
Beverley. Westwood. Sr. H.O.
Pontypridd. East Glamorgan. Sr. H.O.
Group Path: Lab. W. 8. Sr. H.O.

PHYSICAL MEDICINE

Middlesex, W. 1. Sr. H.M.O.

PSYCHIATRY

Bridgend, Morgannwg. Jr. H.M.O.
Stafford. St. George's. Jr. H.M.O. & Sr. H.O.
Liverpool. Sefton Gen. Sr. H.O.
North West Met. R.H.B. P.-t. Cons.
Leeds. R.H.B. Cons.
Birmingham R.H.B. Reg.
St. Albans. Cell Barnes. Reg.
St. Albans. Shenley. Sr. H.O.
Sheffield United Hosps. Sr. H.O.
Birmingham. Hollymoor. Jr. H.M.O.
Taunton. Tone Vale. Jr. H.M.O.
Epsom. St. Ebba's. Reg.
South East Met. R.H.B. Reg.
Liverpool R.H.B. & United Hosps. P.-t. Cons.
Manchester United Hosps., R.H.B. & Univ: Trainee Regs.
Oxford R.H.B. Locum Sr. H.M.O. & Regs.
Virginia Water, Surrey. Holloway San. Reg.
Wallingford. Fair Mile. Jr. H.M.O.
Wakefield. Stanley Royd. Jr. H.M.O. or Sr. H.O.
Ilkley. Scalebor Park. Jr. H.M.O.

RADIOLOGY

Sheffield R.H.B. Cons.
Manchester R.H.B. Cons.
North West Met. R.H.B. P.-t. Cons.
Guy's, S.E. 1. Trainee Reg.

RADIOTHERAPY

Newcastle R.H.B. Reg.
Liverpool Radium Inst. Jr. H.M.O.

RHEUMATOLOGY

Aylesbury. Stoke Mandeville. Sr. H.O.
Sheffield United Hosps. & R.H.B. Reg.

SURGERY

Wolverhampton. New Cross. Sr. H.O. & H.O.
Chertsey. St. Peter's. Sr. H.O. or Pre-reg. H.O.
Barnstaple. North Devon Infy. Pre-reg. H.O. & Sr. H.O.
Bedford Gen. H.O.
Maidstone. West Kent Gen. Pre-reg. H.O.
Hemel Hempstead. West Herts. Pre-reg. H.O's.
Portsmouth Group H.M.C. Pre-reg. H.O's.
Wolverhampton. Royal. Pre-reg. H.O.
Aylesbury. Royal Bucks. & Assoc: Hosps. H.O.
Louth, County. Pre-reg. H.O.
Rhymney & Sirhowy Valleys H.M.C. H.O's.
Romford. Rush Green. H.O.
Brighton. Royal Sussex County. H.O's,
Huddersfield Royal Infy. H.O.
Huntingdon County. Sr. H.O.
Carshalton. Queen Mary's Hosp: for Child. Sr. H.O.
Royal Marsden, S.W. 3. Sr. H.O.
Birmingham United Hosps. H.O's.
Caerphilly Gen. Sr. H.O.
Bishop's Stortford. Herts & Essex Gen. Sr. H.O.
Shrewsbury. Royal Salop Infy/Copthorne. H.O's.
Stoke-on-Trent. City Gen. Pre-reg. H.O. or Sr. H.O.
Mildmay Mission, E. 2. Pre-reg. H.O.
Norwich United Hosps. Pre-reg. H.O's.
Worthing. H.O.
Beverley. Westwood. Sr. H.O. or H.O.
Blackburn & Dist: H.M.C. Sr. H.O. & H.O's.
Altrincham Gen. Pre-reg. H.O.
Birmingham R.H.B. Regs.
Wigan. Royal Albert Edward Infy. Pre-reg. H.O.
Bolton & Dist: H.M.C. H.O's.
Surbiton Gen. Sr. H.O. & Pre-reg. H.O.
Cambridge. Addenbrooke's. H.O's.
Hastings. Royal East Sussex. Pre-reg. H.O.
Winchester. Royal Hants. County. H.O.
Grimsby. Scartho Road. Pre-reg. H.O. or Sr. H.O.
Cuckfield, Sussex. Pre-reg. H.O.
Blackpool. Victoria. Pre-reg. H.O's.
Ipswich & East Suffolk. H.O's.
South East Met: R.H.B. Reg.
Royal Masonic, W. 6. Reg.
Bolton. Royal Infy. Reg.
Manchester. Royal Manchester Child's. Sr. H.O.
Hillingdon, Middx. H.O's.
Hereford Gen. Pre-reg. H.O's.
Brighton & Lewes H.M.C. Locum Sr. Reg.
Southport Gen. Infy. Sr. H.O. & H.O's.
Ashton, Hyde & Glossop H.M.C. H.O.
St. Leonard's, N. 1. H.O.
Paddington Gen., W. 9. Reg.
Wrexham. Maelor Gen & War Mem. Hosps. Pre-reg. H.O's.
Southend Gen. Locum Sr. Reg.
Ryde. Royal I.W. County. Sr. H.O.
Stockton and Thornaby. Pre-reg. H.O. or Sr. H.O.
Cheltenham Gen. H.O.
Brighton Gen. H.O.
Salford. Hope. Reg.
Woking. Rowley Bristow Orthopaedic. Sr. H.O.
Ebbw Vale, Mon. Jr. H.M.O.
Slough, Upton, Locum H.O. & Pre-reg. H.O.
Salisbury Gen. H.O.
Rhyl. Royal Alexandra. H.O.
Bromsgrove Gen. Pre-reg. H.O.
Birmingham, Solihull. Pre-reg. H.O.
Wessex R.H.B. P.-t. Locum.
Hull, Western Gen. H.O.
Carshalton, St. Helier. H.O.
York Military (Civilian Wing) Sr. H.O.
Swindon & Dist: H.M.C. Pre-reg. H.O.
Stoke-on-Trent. North Staffs Royal Infy. Sr. H.O.
Derby. Derbyshire Royal Infy. Sr. H.O.
Manchester R.H.B. Reg.

THORACIC SURGERY

Harefield, Middx. Reg.
North Middlesex, N. 18 Locum Reg.
Nottingham City. Sr. H.O.
Sheffield. City Gen. Reg.

UROLOGY

Leeds. St. James's. Pre-reg. H.O.

GENERAL

U. S. A. Woonsocket Hosp. Rhode Island. Residents.

PUBLIC APPOINTMENTS

Cumberland County Council. A.C.M.O. & Sch. M.O.
Yorkshire County Council (West Riding) A.C.M.O's. & Sch. M.O's.
Essex County Council. Sr. M.O. (Child Health)
London County Council. M.O's.
Staffordshire County Council. Sr. M.O. (Mental Health)
South Eastern Gas Board. P.-t. A.M.O's.

NON-MEDICAL

Birmingham United Hosps. Biochemist.
Bishop's Stortford, Herts & Essex Gen. Sr. Technician (Grade I)

(Further particulars of above vacancies available on request to Advertisement Manager.)

Published by the Proprietors, The Lancet Limited, 7, Adam Street, Adelphi, in the County of London.
Printed by Druck. und Verlagshaus Fr. Pörtner, Bremen-Nord—Saturday, June 27, 1959
Printed in Germany—Entered as Second Class at the New York, U.S.A., Office.

8365